High resolution, book format.

Deconstruction

Vacheron Constantin

Reference: 5000H/000R-B059

Historiques Cornes de vache 1955

(modern version)

by

THE NAKED WATCHMAKER

Images from www.thenakedwatchmaker.com

Edition VC.1a

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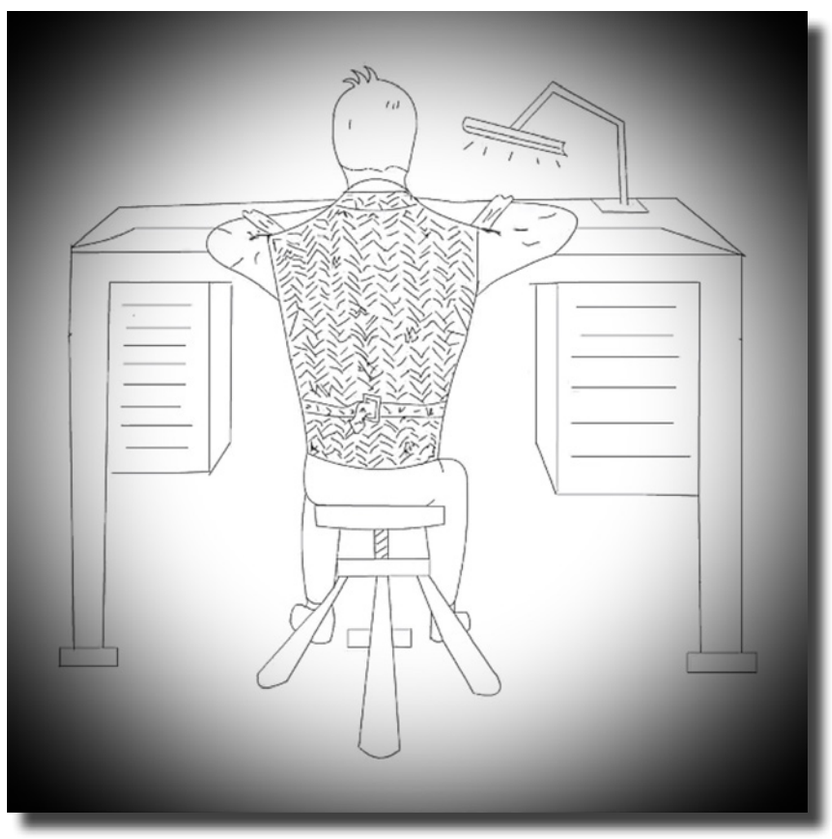


Introduction

Vacheron Constantin's history spans over 260 years; many significant developments have occurred over this period. We have provided an abbreviated view of its history, taken from their website.

17th September 1755 - A contract given by Jean-Marc Vacheron to his first apprentice provides us with the first record of the existence of a company. This date is considered the official "birth date" of the company.

1785 - Abraham Vacheron (1760-1843) son of Jean-Marc Vacheron, succeeds his father and manages to keep the company active despite the turbulent political period of the French Revolution.

1810 - Jacques Barthélémi Vacheron (1787-1864) Grandson to Jean-Marc Vacheron takes over the company and produces further complications and musical timepieces. These are exported to dignitaries abroad and further the reputation of the brand.

1819 - Jacques Barthélémi Vacheron teams up with Francois Constantin a prominent businessman and the company becomes Vacheron et Constantin (Vacheron & Constantin) Mr Constantin expands the client base.

1832 - Marks the first U.S. sales representative John Magnin based in New York.

1835 - Sales representation in Brazil and Cuba.

1839 - Georges-Auguste Leschot (1800-1884) Horological Engineer revolutionises production with the Development of the pantograph & other new tools that make it is possible to manufacture interchangeable parts.

1875 - The company has outgrown its premises and moves to a new factory located in central Geneva, these premises are later to become home to a boutique and the firm's Heritage Department.

1880 - The company registered the Mal-

tese Cross as its logo.

1889 - The company produces its first ladies wristwatch.

1901 - “Vacheron et Constantin” receive the Geneva Hall Mark (created in 1886), established to protect Geneva watchmakers and the fraudulent use of the Geneva name.

1912 - The Tonneau Case was introduced, the shape was innovative and popular with both male and female clients.

1914-15 - creation of the Tuyau movement, it precedes the baguette movement which permits small elaborate watches for jewellery timepieces for the ladies market.

1918-1920 - Provide the American Forces with specially commissioned pocket watches with the inscription “Corps of Engineers, U.S.A and Vacheron & Constantin Genève”.

1929 - The company client list included members of high society and Royal families. A grand complication pocket watch was produced for King Fouad.

The company continues to develop iconic collections and grow.

The late 1960's the "&" We begin to see rare models without the & on the dial (often due to lack of space on the dials of very small diameter ladies' watches).

Early 1970s The & is still very present , for example on France's prestige models (later called 1972). It tended to disappear at the end of the same decade.

1980's The & is no longer in use, Vacheron & Constantin, has become "Vacheron Constantin" as we know it today.

Vacheron Constantin

Historiques Cornes de vache 1955 (modern version)

Reference: 5000H/000R-B059

The Historiques Cornes de vache 1955 is named after the 'Cow Horn' resemblance of the case lugs. It is a modern and upgraded interpretation of one of Vacheron Constantin's iconic watches and carries the Geneva Seal (Poinçon de Géneve).

Introduction/functions

The Historiques Cornes de vache 1955 presented is an 18K (4N) pink gold chronograph with tachometer scale, surrounding the minute track on the dial. This scale tells you directly in relation to the chronograph seconds hand the average speed at which a known distance was covered. If your distance base is one kilometre, the result will be in km/h. For one mile, the result will be in mph. The minute recorder, measures up to 30 minutes. The Historiques Cornes de vache 1955 presented is an 18K (4N) pink gold chronograph with tachometer scale, surrounding the minute track on the dial. This scale tells you directly in relation to the chronograph seconds hand the average speed at which a known distance was covered. If your distance base is one kilometre, the result will be in km/h. For one mile, the result will be in mph. The minute recorder, measures up to 30 minutes.


SWISS MADE
1394533
5361985
1142
TWENTY-ONE (21) JEWELS
ADJUSTED
FIVE (5) POS
VACHERON CONSTANTIN
GENEVE
SWISS
Au750
VACHERON ✠ CONSTANTIN

Technical Specifications

The case is 38.5 mm in diameter excluding the shoulders, 10.9 mm thick and made in 18K 4N pink gold with sapphire crystals on the front and case back. Water-resistant to 30 meters (3 bar). The calibre reference is 1142. It is a manual-winding movement, 5.57mm in thickness and 27.5mm in diameter. There are 164 components in the calibre, including 21 jewels. The balance vibrates with a frequency of 3 Hz (21600 v.p.h). The power-reserve is approximately 48 hours.

The case back with sapphire crystal is screwed in place using a 10 sided faceted key. The case back with sapphire crystal is screwed in place using a 10 sided faceted key.

With the case back removed the movement ring acting as a spacer between the inner case and the movement can be viewed. The Movement ring is screwed in place using three stainless steel screws and clamps. The movement is held in to the movement ring by two large headed carbon steel screws viewed below at 1 & 7 o'clock.

All of the bridges are finished with a Geneva Stripe (Côtes de Geneve) decoration, the levers straight grained, angled and the side dressed. All screws flat black polished and angled.

The Geneva Seal
(Poinçon de Géneve),
found on the balance cock.

The inside of the case back showing the case serial number, indexing hole for machining and case-makers mark. Finished with a fine circular graining.

The movement removed from the case with the stem returned.

The hands removed from the movement.

The dial removed from the movement.

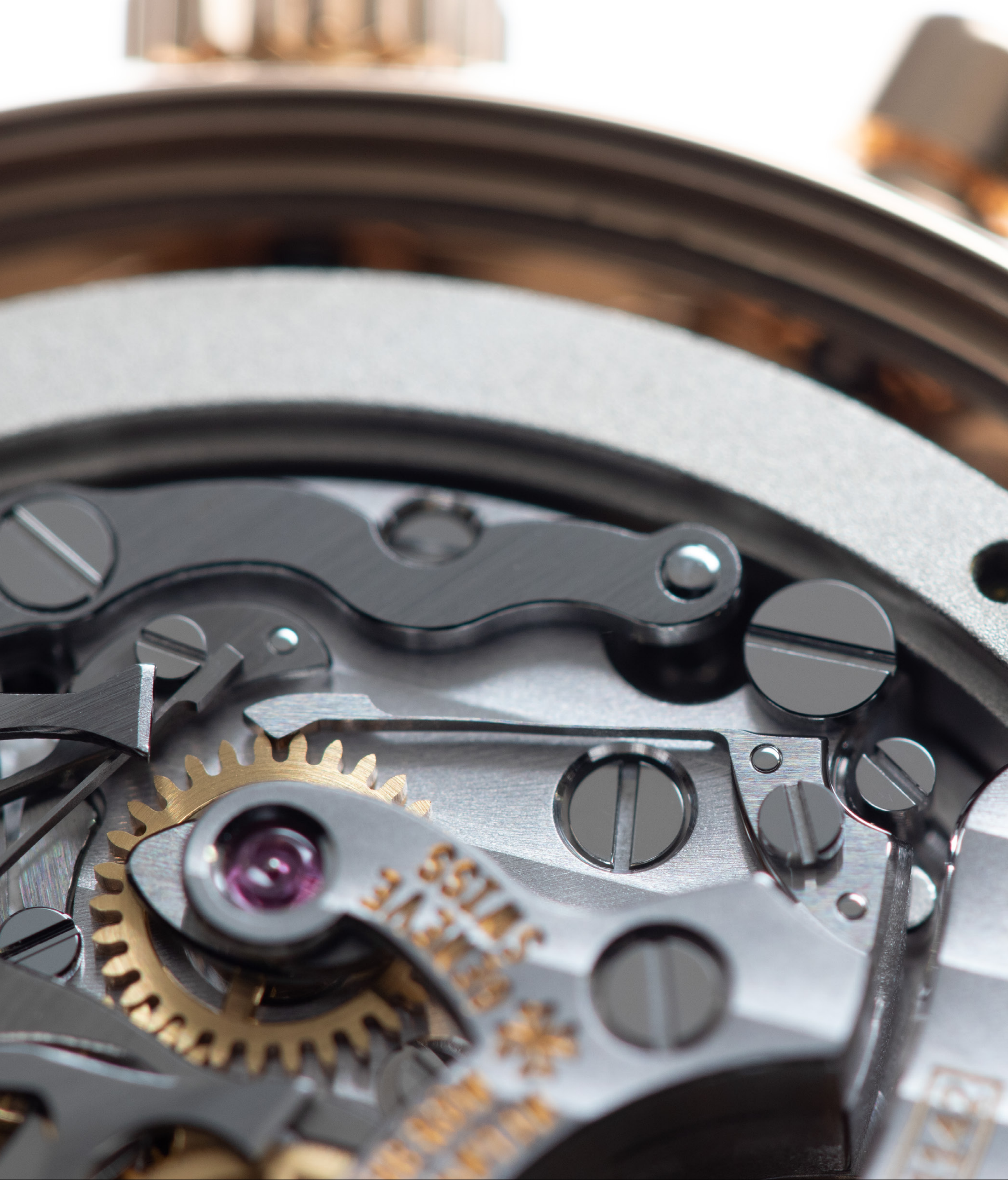
The minute, hour and constant seconds hand are made from 18k gold. The chronograph seconds and minute recorder hand from hardened carbon steel, polished and blued.

The column wheel

(also known as the pillar wheel)

The column wheel is held in place by a shoulder screw made in the form of the Vacheron Constantin logo. The column wheel is activated/turned by the operating lever which is moved by the 2 o'clock chronograph case pusher. It turns the chronograph on and off, and when 'off' allows the 4 o'clock pusher to return to zero the chronograph hands.

In 1880 Vacheron Constantin adopted the Maltese cross as the company's official logo.



The 30-minute recorder wheel indexed by a jumper pawl (spring).

The return to zero mechanism

The vertical pin holds the hammers, preventing them from returning to zero the chronograph wheels until the 4 o’clock pusher is pressed.

When the chronograph has been stopped by pressing the 2 o'clock pusher, the hammers are released by pressing the 4 o'clock pusher which moves the vertical pin. The hammers in this calibre are spring loaded. Chronograph hammers are powered either by a spring such as here which drives them when they are released, or by the manual force of the operator.

The coupling clutch. The large steel lever with visible jewel and smaller gold coloured wheel. This beak of this lever to the right of the image is controlled by the column wheel. Below the beak has dropped between the pillars on the column wheel, and its wheel driven by the upper fourth wheel (to the left) has engaged with the chronograph wheel. When the column wheel turns by one tooth the coupling clutch will move slightly, the beak sliding to the surface of a pillar and the chronograph will stop.

The screw head with two slots is an eccentric plug which allows the depth of penetration between the upper fourth wheel and the coupling clutch wheel to be adjusted.

The teeth of the coupling clutch wheel and the chronograph seconds wheel have sharp triangular teeth to ensure that when they engage they mesh easily.

The depth the teeth mesh is important and adjusted by eccentric or flat side plugs to ensure the chronograph seconds hand turns smoothly. There are also friction springs which contribute to the smooth running of the chronograph hands.

In focus to the left of centre of the image is the minute recorder intermediate wheel, driven every minute by the chronograph seconds wheel finger (that is mounted under the chronograph seconds wheel).

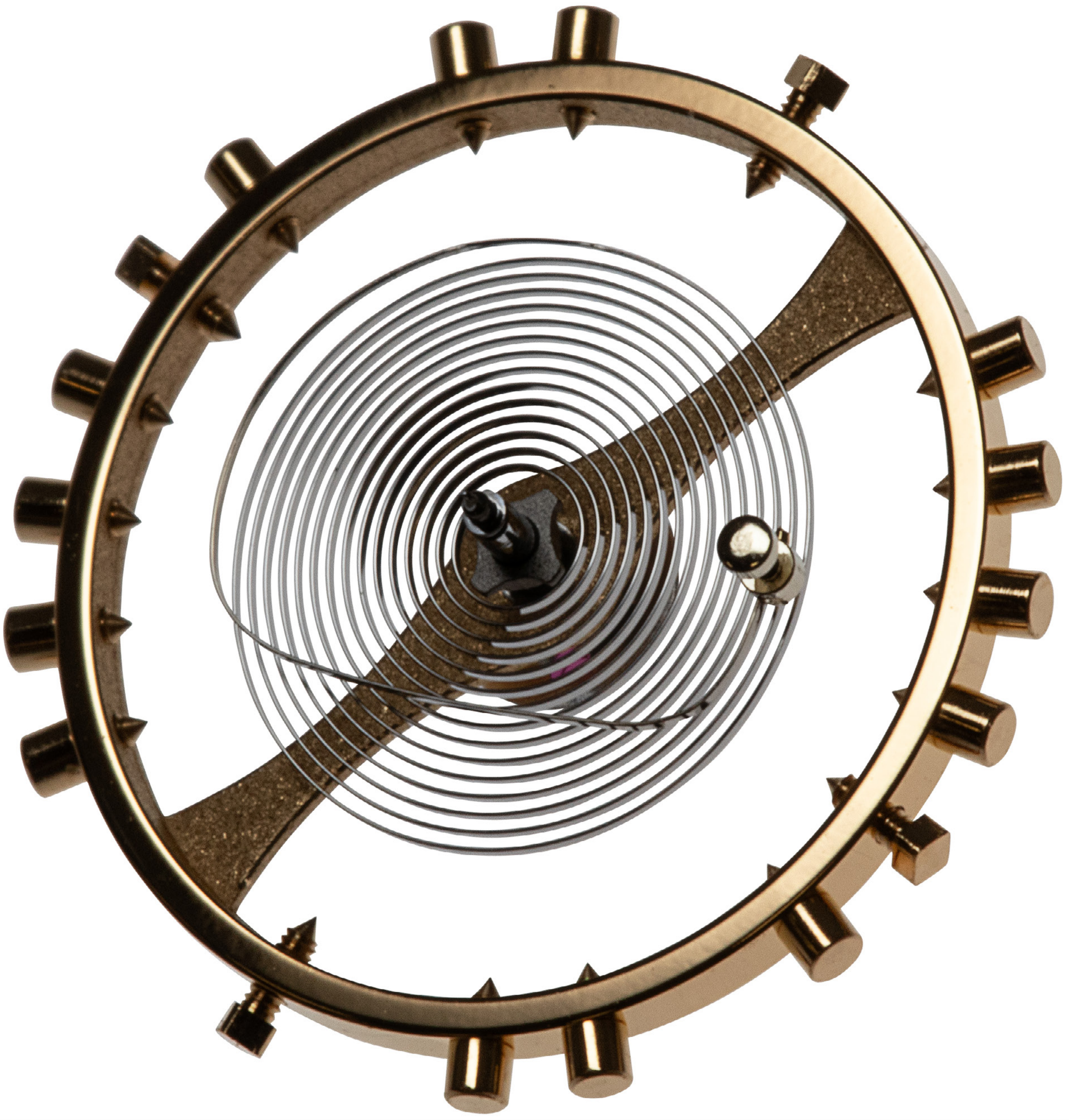
The movement removed from the movement ring

Underside of the movement normally hiddden by the dial.

The balance and balance cock removed from the movement.

The balance and balance cock

The balance wheel is free-sprung (no index on the balance cock to change the effective length of the balance spring). The timing is adjusted by screwing the square timing screws in or out evenly on a-posing sides of the balance wheel, to quicken or slow the rate of the balance wheels oscillations.



The Swiss lever (pallets) removed from the movement.

The balance and escapement is normally removed first when servicing a watch movement.

The Swiss lever and its bridge.

The coupling clutch removed.

The double ended spring that acts on the coupling clutch and the operating lever hook, removed.

The main operating lever and its hook removed.

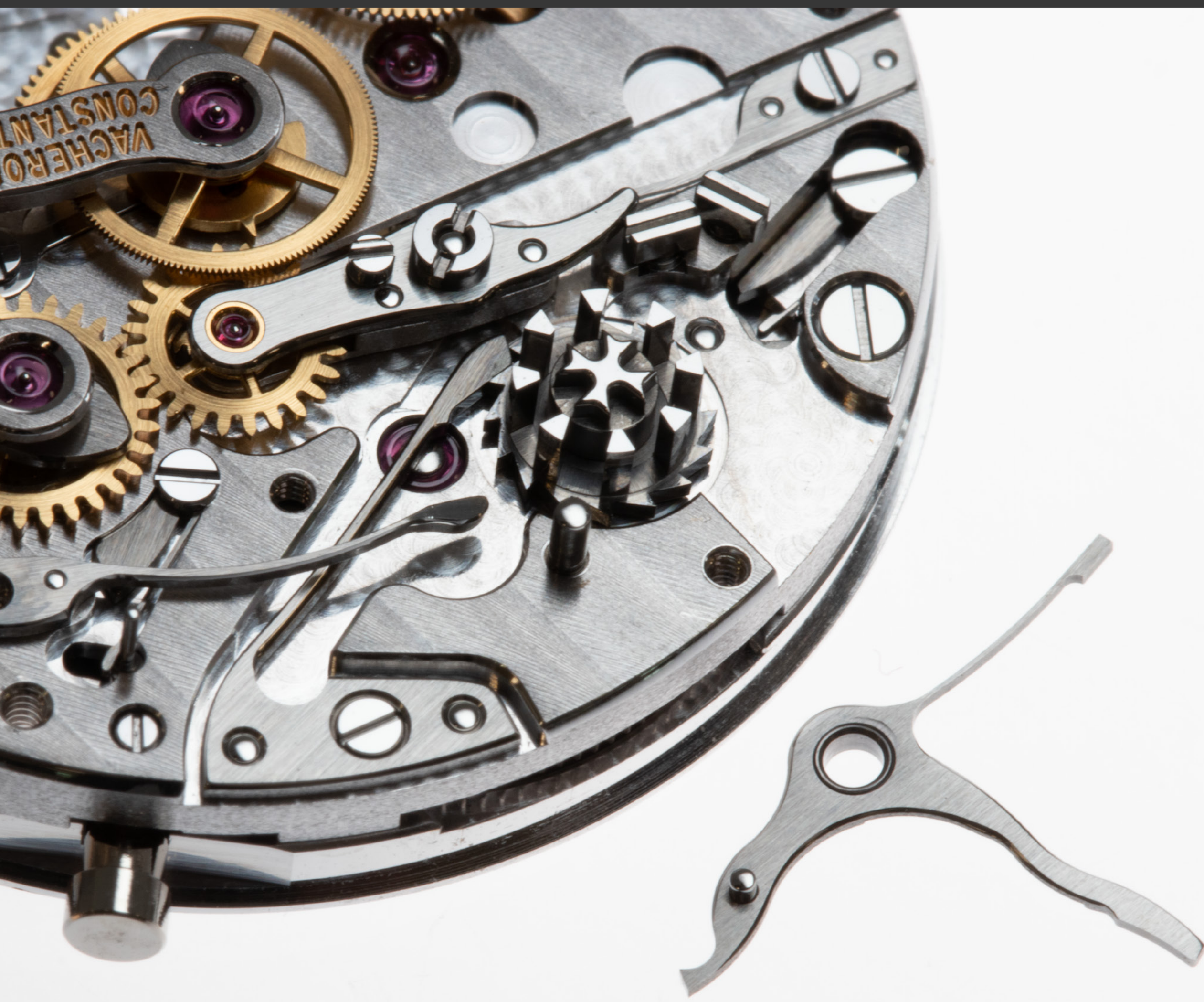
The hook that pulls the column wheel one tooth at a time when the operating lever is activated, pivots under the lever and is held in place by the spring (above image) which also pushes it into the column wheel.

The hammers about to be removed.

The spring remaining on the movement under the hammers pushes the hammers into the centre of the watch to return to zero the chronograph counter wheels, and holds it in place.

The brake removed.

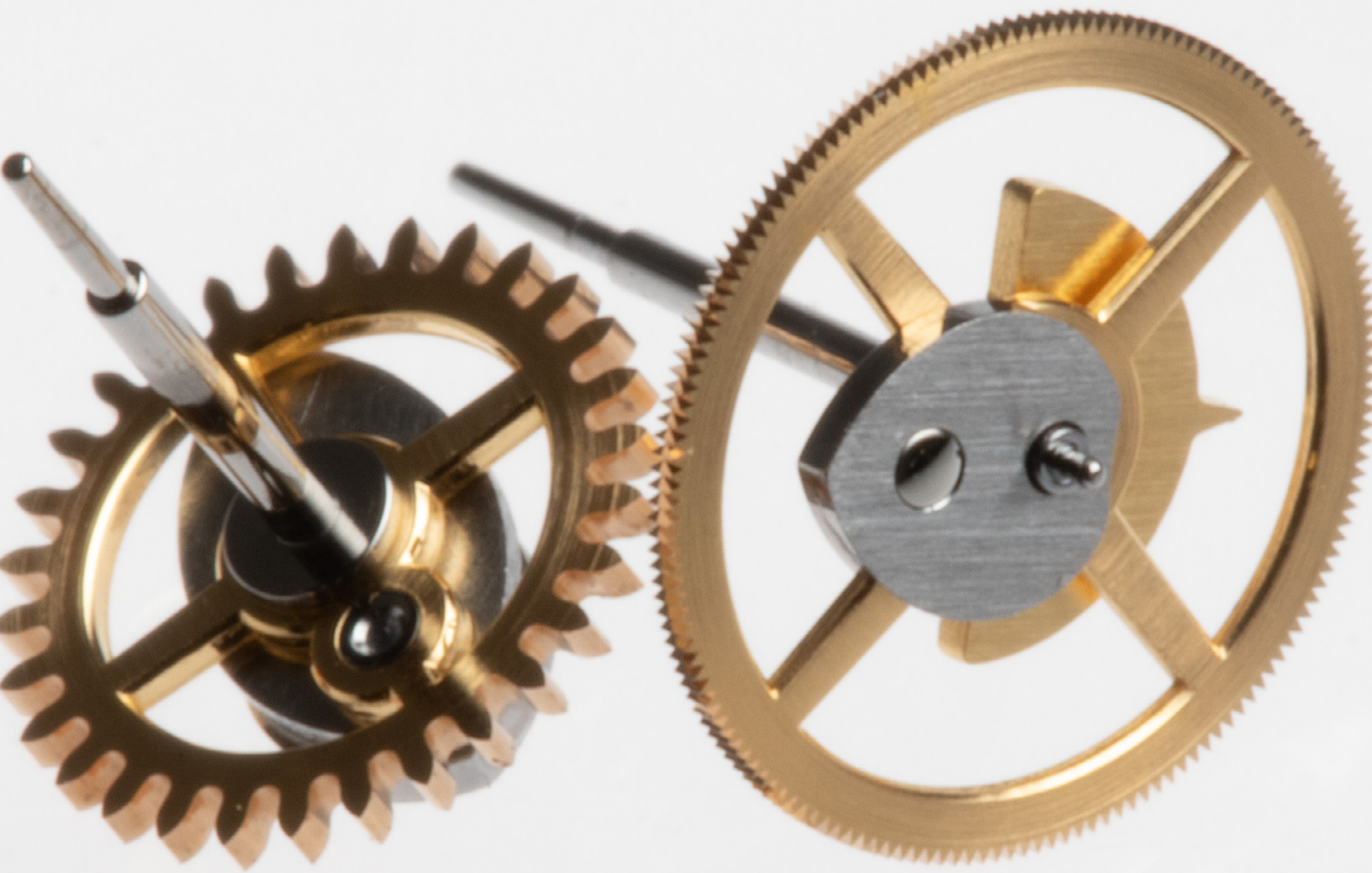
The brake holds the chronograph seconds hand from moving when the chronograph is in ‘stopped’ position but not yet returned to zero.



The bridge holding the chronograph seconds and minute recorder wheels removed with the wheels

Now the full intermediate minute recorder wheel assembly can be seen.

The 30-minute recorder wheel to the left and the chronograph wheel to the right. Both wheels have a steel heart shaped cam (visible only on the right) which allows the wheels to be returned to zero (centred).



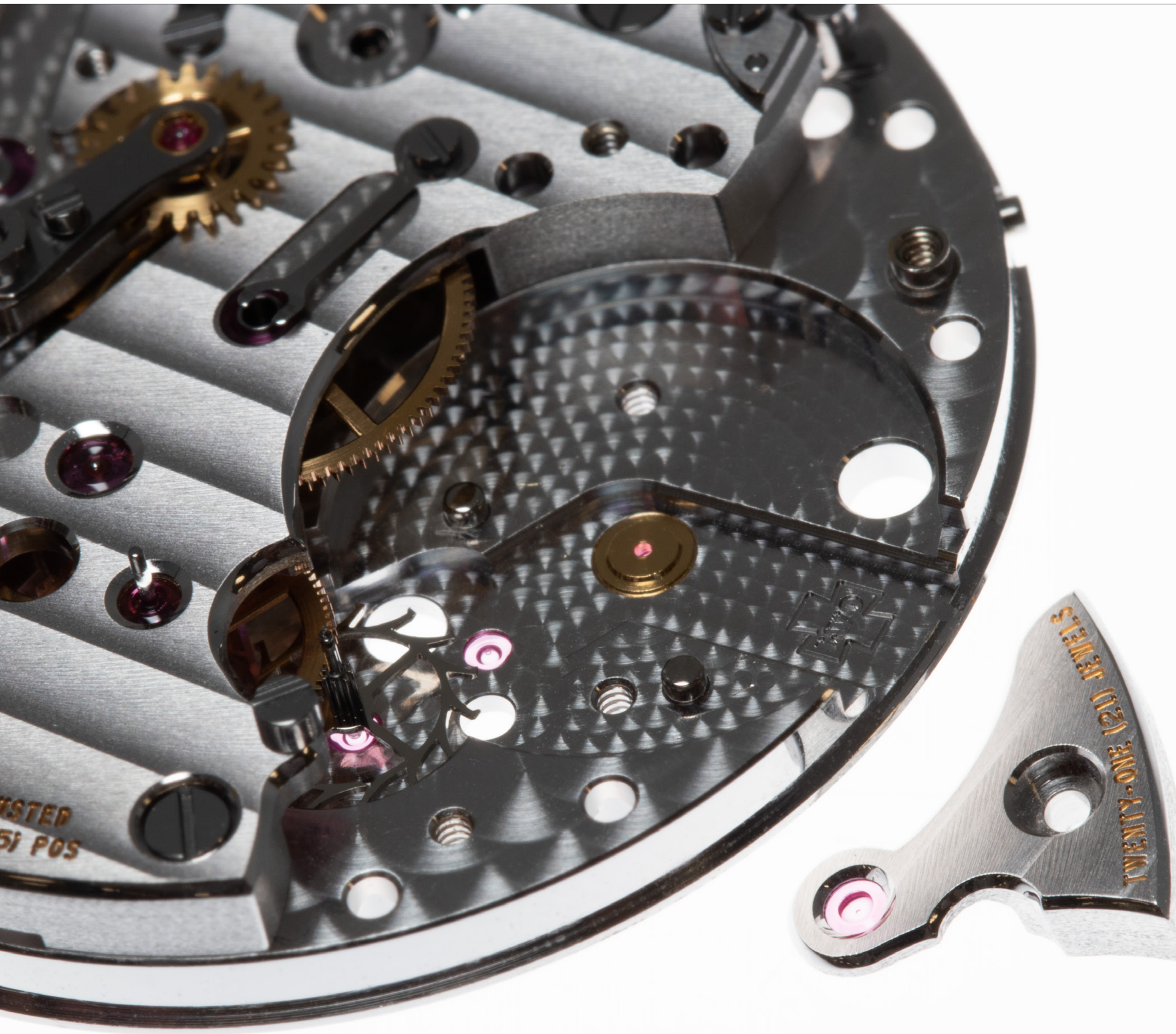
The column wheel about to be removed. The column wheel is in essence the brain of the chronograph that controls the mechanism as the pushers are activated. The shoulder screw holding it in place is in the form of the Vacheron Constantin logo and requires a special screw-driver made for it to be removed and replaced.

The inverse pattern of the cross is used to make the screwdriver blade.

The column and screw removed.

The friction fitted upper fourth wheel that drives the chronograph removed, sitting next to the pivot it usually lives on.

The escape wheel cock removed allowing the escape wheel to be removed.



The majority of the surfaces are decorated, those visible and hidden. All angles are polished by hand. All assembly is also made by hand.

The 3/4 plate now removed showing the going train usually hidden underneath.

The underside of the 3/4 bridge and the main-plate fully dismantled except for the winding/setting mechanism.

Summary

The basic chronograph movement shown was originally designed in the 1940's by Albert Piguet at the Lémania workshops. The calibre has been upgraded and updated to both follow the Vacheron Constantin design as well as qualify for the Geneva Seal (Poinçon de Géneve). The result is a balanced and modern interpretation of the original Historiques Cornes de vache 1955 made to a superior quality than the original, incorporating higher levels of accuracy, improved finishing and a far more solid and resistant case.